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substances are common in living cells, their transformation into the diffusible form of glucose is the phenomenon common to osmosis currents throughout the plant.

Perhaps here is a partial explanation of the presence in flowers of the materials upon which natural selection has worked in the production of honey: a large supply of water bringing to cells comparatively near the surface substances in solution which are there united into diffusible organic compounds, and rapid evaporation of this water which carries with it to the surface a small part of these materials dissolved in it. That the first secretions of this kind may not have been perceptibly sweet is suggested by the occurrence of nectar like that of Pinguicula, which is mere "slime," and by the fact that the nectar of different kinds of flowers varies greatly in degree, as in quality, of sweetness. The earliest nectaries were also probably unspecialized in form, mere surfaces from which evaporation went on from cells rich in pollen or seed-producing substance lying directly over a network of vascular tissue. Perhaps the watery secretion found the first day of blossoming, in the stigmatic cavity of Nymphæa tuberosa, represents such a primitive form. The development of greater sweetness, of peculiar form, of protective coverings (spurs, hairs, etc.), the localization of the secreting power in particular spots, etc., must be delegated to the working of natural selection--here, largely, insect selection--to which also the peculiar forms of the other parts of many flowers are generally admitted to be due.—ALICE CARTER, *Mt. Holyoke College, South Hadley, Mass.*

Peronospora Rubi Rabenh. **in America.**—Last year, after the GAZETTE's notice of the discovery of *Peronospora Cubensis* B. & C., here at New Brunswick, it was found in at least two other localities in the United States. A similar note to the effect that on May 26th the *Peronospora Rubi* Rabenh. was discovered upon Rubus strigosus may lead observers to look for this species elsewhere. I do not find any record of this mildew having previously been seen upon living hosts in this country. As it was taken upon cultivated raspberries it becomes of interest to growers of this fruit, as it is very likely it will spread to other cultivated species of the genus, for its two hosts in Germany are R. cæsius and R. fruticosus.—BYRON D. HALSTED, *New Brunswick, N. J.*

Cynosurus cristatus L.—I have noticed, lately, the "crested dog's-tail grass" (Cynosurus cristatus) growing abundantly in the small grass plots, in Boston, before many of the houses. It also occurs in Cambridge in similar situations. I inquired at one of the large seed stores in Boston, and was informed that it was mixed with other grass seeds and sold for use on lawns and the like. The species is a native of Europe and Northern Africa, and as its roots sink deep into the ground it can withstand droughts much better than many other grasses.—WALTER DEANE, *Cambridge, Mass.*